

# Easy Online Order

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**Abstract**—This paper will discuss the online business application Easy Online Order and the possessed functions. A detailed description of the business application and requirements related to the business application will be provided. This includes the database structure and will explain the hardware design as well as the software design.

## I. INTRODUCTION

In today's fast-paced era, when everyone is usually in a rush to complete most tasks, people are very selective in the establishments and applications used to place orders. For most businesses, customers are attracted to the restaurants that all orders to be placed online. The COVID-19 pandemic force many businesses to offer online ordering options to avoid being closed. Even though the restrictions of the pandemic are not as great as before, there is still an increased need to provide those online ordering options to customers. Having an online ordering option, customers can conveniently examine the menu, compare the prices, navigate through the ordering process. The purpose of this online business application is to create a system that will allow businesses to provide its customers with the option to place orders online. This provides a clear and easy method for the restaurant's customers to have the same experiences as placing orders in the store but the added convenience of not having to be present in the store. This application will help businesses stay vital and have greater longevity as they adapt to constant changes in technology and the available uses and resources offered by the internet.

## II. OVERALL DESCRIPTION

### A. Operating Environment

- Client/server system
- Operating system: Windows/iOS
- Database: SQL+ database
- Platform: PHP/JavaScript

### B. User Classes and Characteristics

The user classes are customers who want to place orders, and the business employees as administrators. A user(customer) can perform the following operations:

- 1) Sign up for an account
- 2) Login and Logout
- 3) Add products to the shopping cart
- 4) View the menu
- 5) Search attribute by product name
- 6) Update profile
- 7) View the order summary
- 8) Make payment

A user (administrator) can perform the following operations:

- 1) View the menu
- 2) Edit items on the menu page
- 3) Change the items price on the menu page

- 4) View and managing all the order being placed
- 5) Update the order status
- 6) Managing user accounts and shopping cart

### C. System Communication

Users can connect to this business application via the use of a web browser. The communication standards that will be used will be HTTP, which will be connected to the servers of the Mathematics, Computer, and Information Science (MCIS) department at Mississippi Valley State University. This connection enables the business application to be accessed every time the request is placed via the web browser (provided there is a sufficient internet connection) and users can have access to the functionality of the business application. Also, via the use of PHP, the business application can connect to the database, and data can be pushed, pulled, and updated within the database and exported to the business application whenever necessary. In addition, customers can login using username and password, place, and view orders.

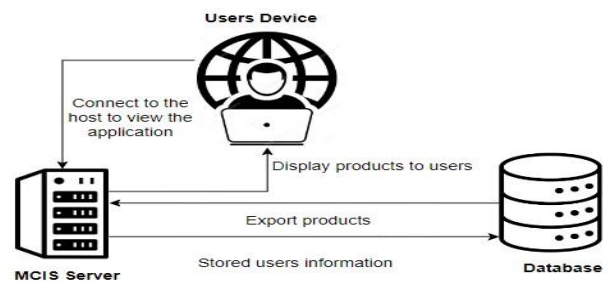


Fig. 2.1. After the application is hosted in MCIS server, the user can use web browser to connect to the host and view the application [7].

## III. USE CASES DIAGRAM

There are two user types: administrator and customer. The administrator can use an admin panel to access all the functionality of the business application. This includes view/edit/update/delete business products information, view/update/edit their own profile and customer profile, view/edit/update/delete all the orders placed by customer, view/edit/update/delete items from customers shopping cart and manage all customer user accounts such as create/edit/update/delete.

When it comes to customers, they have less functionality than administrators. They can create an account to place an order, view menu products, add/edit/update/delete items from their shopping cart, place order, view order summary, and view/edit/update their profile. More details on how users can navigate through the function of the business application are described in the user case below:

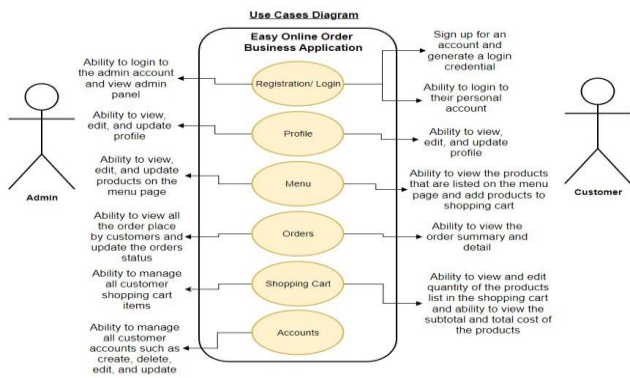


Fig. 3.1. Integration of objects and their actions in the Easy Online Order business application [7].

#### IV. DATABASE STRUCTURE

The database will be implemented using phpMyAdmin hosted by the MCIS server at Mississippi Valley State University. To enable users to read and write data, the database is connected to HTML/PHP files. The queries (read, write, update, and delete) are processed using PHP and SQL languages.

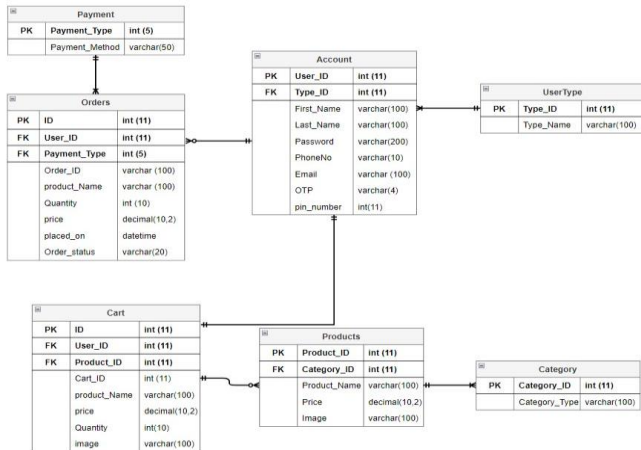


Fig. 4.1. The Entity-Relationship Diagram of the business application database shows the cardinalities and relationship of the tables [7].

#### V. NON-FUNCTIONAL REQUIREMENTS

##### A. Performance Requirements

This business application needs to be connected to the internet for it to perform its functions. It will only work on PC and mobile devices that have internet access. Some of its major performance requirements are:

- The business application should be able to direct users from one web page to another efficiently.
- The business application should be able to allow numerous new users to sign up to obtain login credentials. For example, email address, and the user's inputs are valid; the user should be able to obtain login credentials.
- The business application should be able to allow users to place orders online.

##### B. Safety Requirements

To prevent loss/corruption of the data, the users can download antiviruses and ensure the antivirus is always updated to effectively perform its function. In addition,

user's password will be encrypted to ensure no data will be lost or stolen.

##### C. Security Requirements

To login, the user's email address and password must match the user's information previously stored in the database in order to secure each login. Also, upon logging in, the user's password will be hidden unless the user decides to click on the eye toggle in the password input field in order to reveal the password. A similar approach is also used on the profile page in order to protect the user's password from prying eyes.

##### D. Other Requirements

The database that will be used for the system will be SQL-based. It would be able to store all the user's information. All the user's information will be stored in the Mathematics Computer Information Science (MCIS) Department database. It will require internet access for the program to connect with the server and database.

#### VI. EXTERNAL INTERFACE REQUIREMENTS

##### A. Hardware Interface

This business application is supported by, but not limited to, the following:

- Computers
- Mobile Devices
- Tablets
- Any other device that has the Internet and a web browser

This business application is expected to interact with hardware components via a web browser. If the hardware interface is connected to the internet and has a supported web browser, this hardware interface can interface with the business application, and data/information can be processed between them.

##### B. Software Interface

The business application is expected to interact with other software components:

- **Operating System:** The business application is the best fit for the Windows operating system because of the Windows operating system flexibility and the fact that most of the testing and implementations will be done on a Windows operating system. However, the business application can also be accessed on other operating systems, for example, Android, iOS and MacOS, and more. The operating system makes certain applications (web browsers) accessible to the users access the business application.
- **Web Browsers:** Web browsers such as Chrome, Firefox, and Safari are used to access the business application and bring the application to life for the user. Via these web browsers, users can communicate with the business application and receive feedback messages from the business application.
- **Database:** This application makes use of a database known as phpMyAdmin under the

Mathematics, Computer, and Information Science (MCIS) department at Mississippi Valley State University. The database is expected to hold information concerning the users of the business application. Also, perform business operations by exporting business data from database.

## VII. STATE DIAGRAM

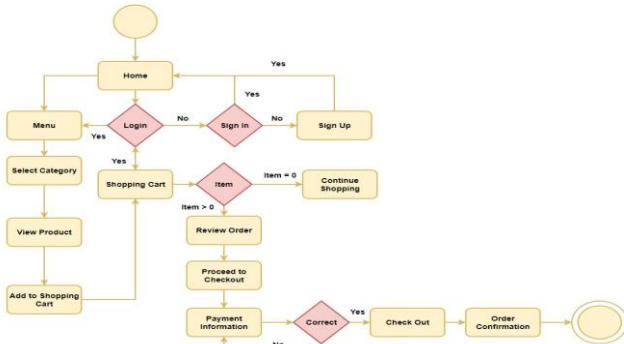


Fig. 8.1. Describe how user successfully placed online order [7].

## VIII. USER INTERFACES

Below are the designs of the various interface between the users and the business application:

### A. Home Interface

This page represents the homepage of the business application. It is the first page that will be loaded up when the address of the business application is called from the web browser. It incorporates the navigation bar (business logo, home hyperlink, menu hyperlink, orders hyperlink, shopping cart hyperlink, profile hyperlink, and search box), and footer (contact information, business open hours, business address, and copyrights). Customers will be able to view business services and access other interfaces using the hyperlink located on the homepage.

### B. Login Interface

This page will load up when the login hyperlink is clicked on the navigation bar. This page incorporates the navigation bar and footer. A prompt that allows users to login to their account using email and password. All login input must match with the input prompt provided by the registration interface. A forgot password and sign up for account hyperlink.

### C. Menu Interface

This page will load up when a menu hyperlink is clicked on the navigation bar. This page incorporates the navigation bar and footer. Customers will be able to view all products offered by business, such as name, price, image, and category of products. In addition, provide add products to cart functionality to login customers.

### D. Registration Interface

This page will load up when sign up for account hyperlink is clicked on the login page. This page incorporates the navigation bar and footer. If first-time customers want to place orders over the internet. They must register an account using the registration interface. The registration interface will prompt customers to enter their

first name, last name, phone number, email address, PIN number, and password.

### E. Orders Interface

This page will load up when an orders hyperlink is clicked on the navigation bar. This page incorporates the navigation bar and footer. This interface will prompt customers to login to their account if they're not logged in yet. Only logged-in customers will be able to view all orders they placed online. Also check the order status. The layout of the orders page is shown below:

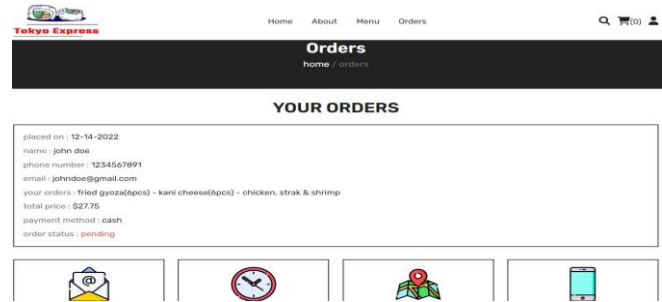


Fig. 9.1. Orders Page [1] [2] [4] [6].

### F. Search Result Interface

This page will load up when the search button is clicked on the navigation bar. This page incorporates the navigation bar and footer. Customers will be able, using a search box, to search for the product that they're looking for. This interface will display name, price, category, and image of the product that matches user input.

### G. Shopping Cart Interface

This page will load up when the shopping cart hyperlink is clicked on the navigation bar. This page incorporates the navigation bar and footer. This interface will prompt customers to login to their account if they're not logged in yet. Only login customers will be able to view and edit products in shopping cart. Subtotals will be calculated based on the products on the shopping cart. The layout of the shopping cart page is shown below:

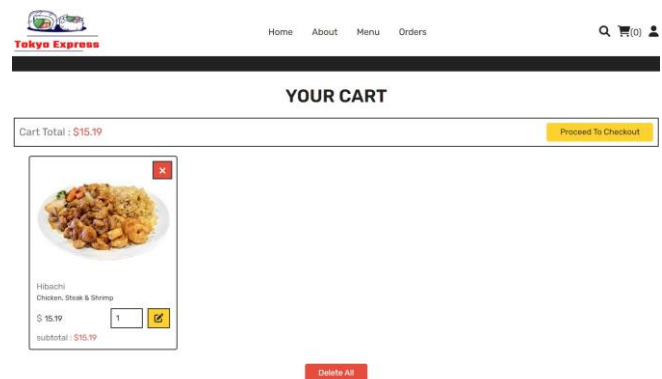


Fig. 9.2. Shopping Cart Page [1] [2] [4] [6].

### H. Profile Interface

This page will load up when the profile hyperlink is clicked on the navigation bar. This page incorporates the navigation bar and footer. This interface will prompt users to login to their account if they're not logged in yet. Only login users will be able to view and update their profile information. Such as password, email, phone number, first

and last name. The layout of the profile page is shown below:

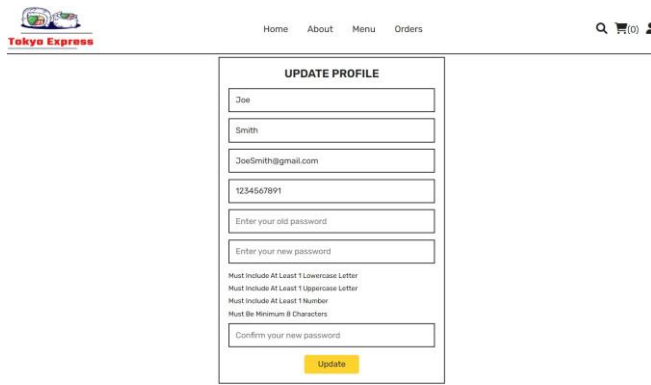


Fig. 9.3. Profile Page [1] [2] [4] [6].

### I. Checkout Interface

This page will load up when the proceed to checkout hyperlink is clicked on the shopping cart page. This page incorporates the navigation bar and footer. This interface will display customer information; it involves name, phone, email. The products information based on shopping cart. It involves the price, quantity, and name of the products. In addition, display subtotal, tax, and total cost of the order. The layout of the checkout page is shown below:

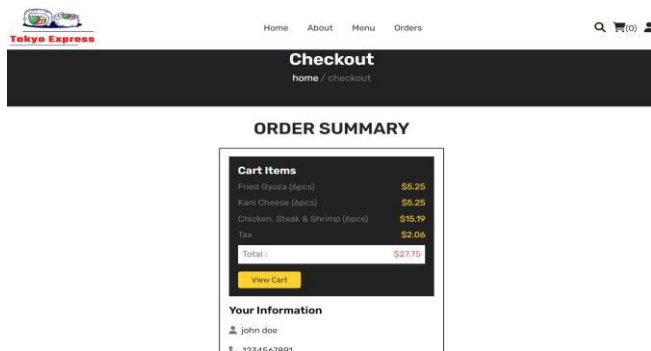


Fig. 9.4. Checkout Page [1] [2] [4] [6].

### J. Admin Panel Interface

This page is the first page that will be loaded up when the admin is logged in. This interface is also called “Admin dashboard”. This page incorporates the navigation bar (dashboard hyperlink, add products hyperlink, placed orders hyperlink, users’ hyperlink). It will provide administrator, easy and clear function features using labels and hyperlinks. The layout of the admin panel is shown below:

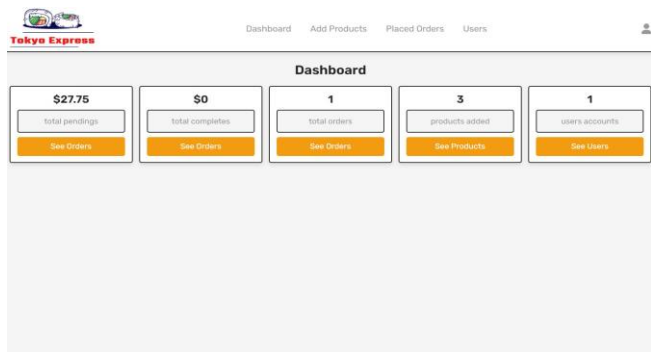


Fig. 9.5. Admin Dashboard Page [1] [2] [4] [6].

### K. Placed Orders Interface

This page will load up when the orders hyperlink is clicked on the admin dashboard. This page incorporates the navigation bar. This interface will display all customers’ orders placed online. Admin can update the order status, so customers will know if their order is ready or not. The layout of the placed order page is shown below:

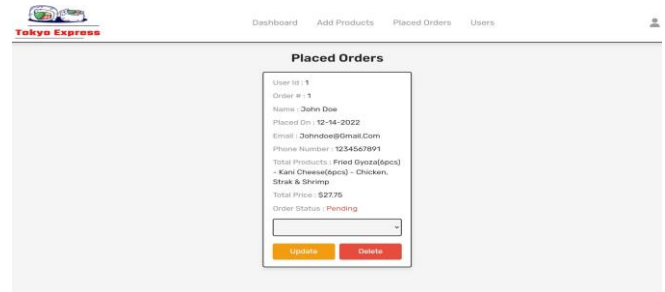


Fig. 9.6. Placed Orders Page [1] [2] [4] [6].

### L. Add Products Interface

This page will load up when the products hyperlink is clicked on the admin dashboard. This page incorporates the navigation bar. This interface will provide administrator with add-product to menu feature. It involves uploading image, price, name, category of products. All products stored in the database will be exported and listed on the page too. The layout of the add products page is shown below:

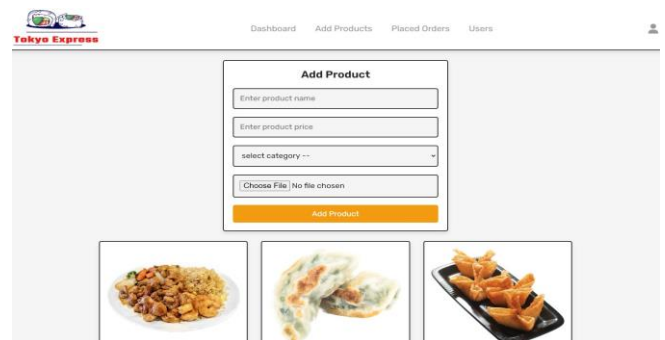


Fig. 9.7. Add Products Page [1] [2] [4] [6].

### M. Update Product Interface

This page will load up when the update hyperlink is clicked on the add-product page. This page incorporates the navigation bar. This interface will provide administrators to administer update product menu features. It involves updating image, price, name, category of product. The layout of the update product page is shown below:

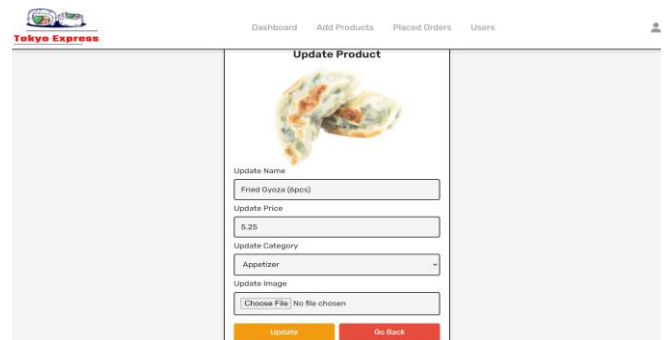


Fig. 9.8. Update Product Page [1] [2] [4] [6].



## N. Users Account Interface

This page will load up when the see users' hyperlink is clicked on the admin dashboard. This page incorporates the navigation bar. This interface will provide administrator to administer users account features. It includes updating user profiles, creating new users accounts, and deleting users' account. The layout of the user account page is shown below:

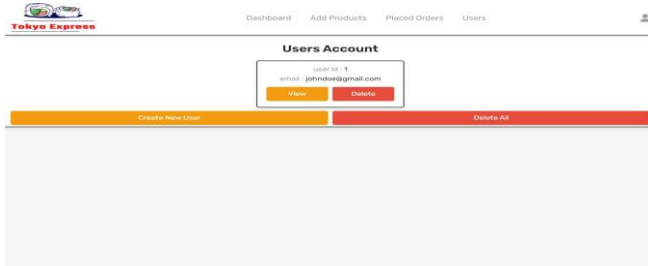


Fig. 9.9. Users Account Page [1] [2] [4] [6].

## O. Forgot Password Interface

This page will load up when forgot password hyperlink is clicked on the login page. This page incorporates the navigation bar and footer. It prompts the user to fill out their email address and PIN number to reset their password using one-time verification code.

### FUTURE PLANS

For future maintenance, the application will be improved in many ways. Some of the improvements will include:

- Admins will have more control over the content.
- Customers can choose food ingredients according to their preferences.
- Customers can send feedback using the business application.

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